The National Orthodox School Shmaisani

Science summary sheet #2

Grade 8 National

Unit 1: Heredity and Reproduction

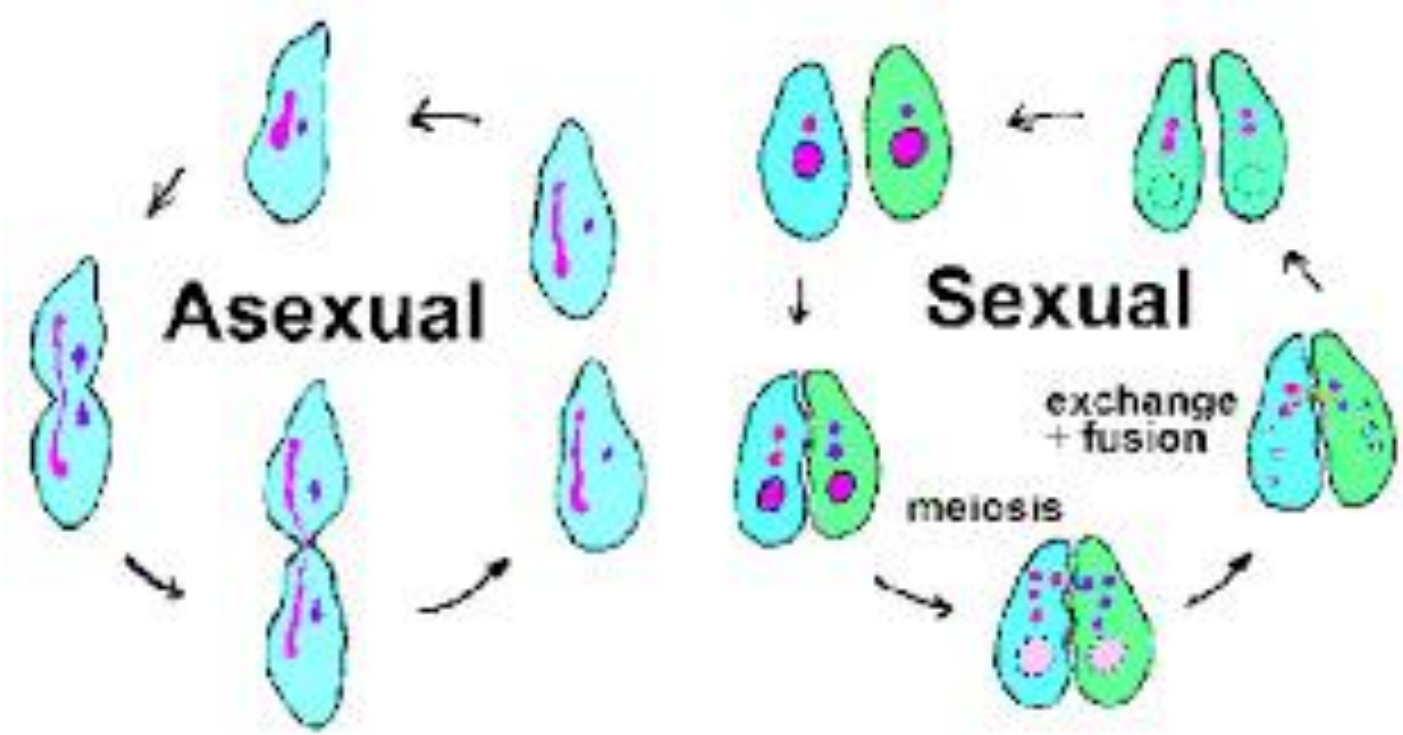
Lesson 2 Reproduction

Learning Objectives:

- Identify the importance of reproduction in living organisms.
- Differentiate between Asexual and Sexual reproduction.

Key words:

- ❖Asexual reproduction
- ❖Vegetative reproduction
- ❖Sexual reproduction
- ❖Fertilization
- ❖Zygote
- ❖pollination



Reproduction

- Reproduction is important for the continuity of all living organisms and keeps them from becoming **extinct**.

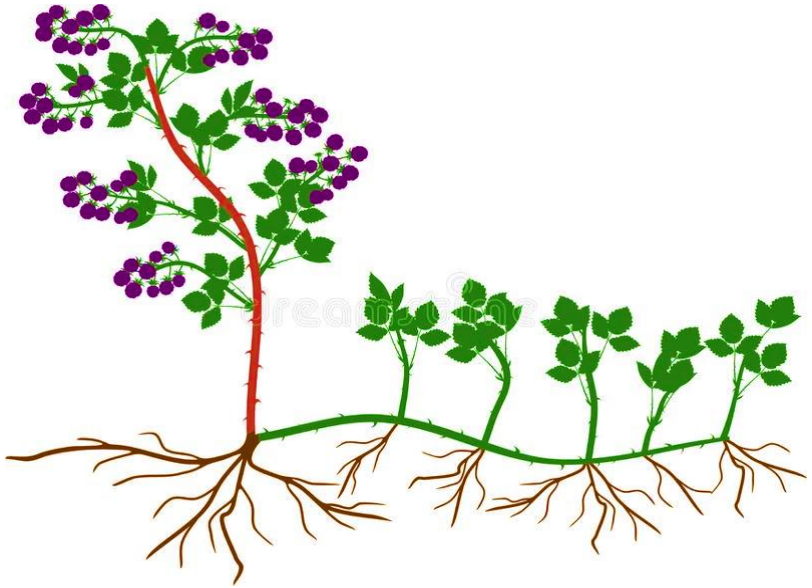
- **In reproduction, living organisms pass their genetic material to preserve their species.**

There are 2 types of reproduction

1- Asexual reproduction	2- Sexual reproduction
The organism passes a copy of all of its DNA to its offspring , creating a genetically identical individual.	Two parents each share half of their genetic information, creating a genetically unique offspring.

Asexual reproduction in Plants

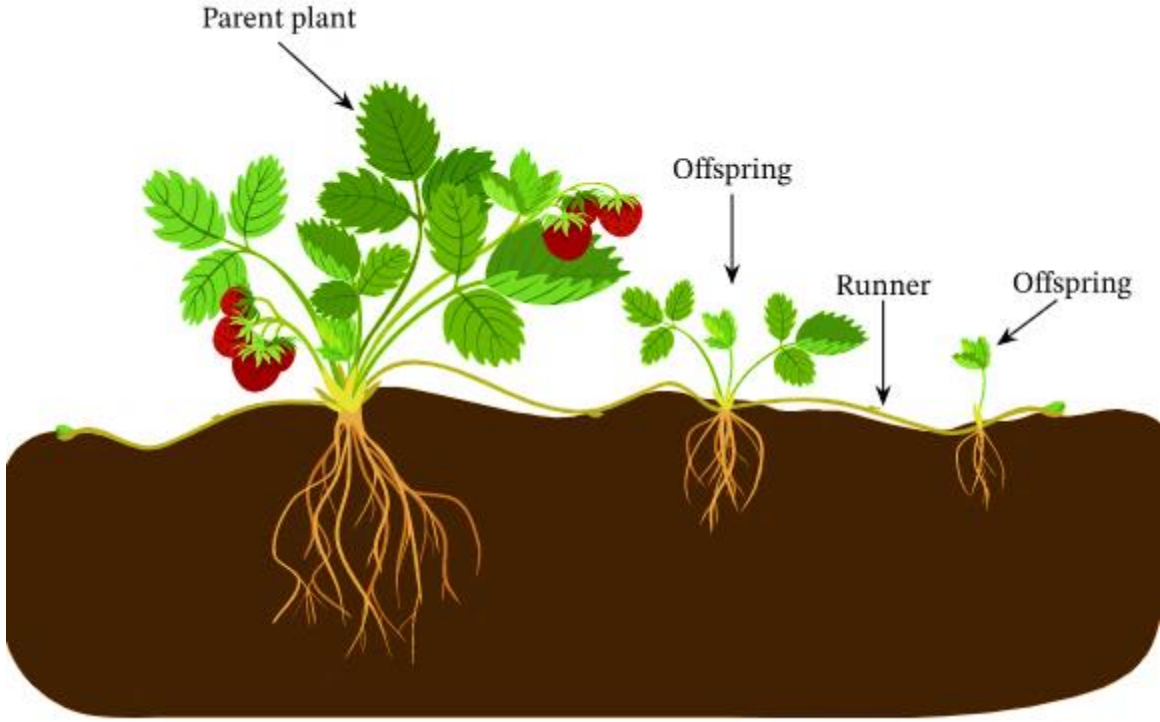
- Some plants use asexual reproduction to make new plants.
- Unlike sexual reproduction, asexual reproduction only needs one parent plant to make new plants.
- Because there is only one parent plant, there is no fusion of gametes, and no mixing of genetic information. The new plants are identical to the parent plant. They are **clones**.



Vegetative reproduction is a type of reproduction in plants where a new plant grows from a fragment or a part of the parent plant (**stems, roots or leaves**)

Examples

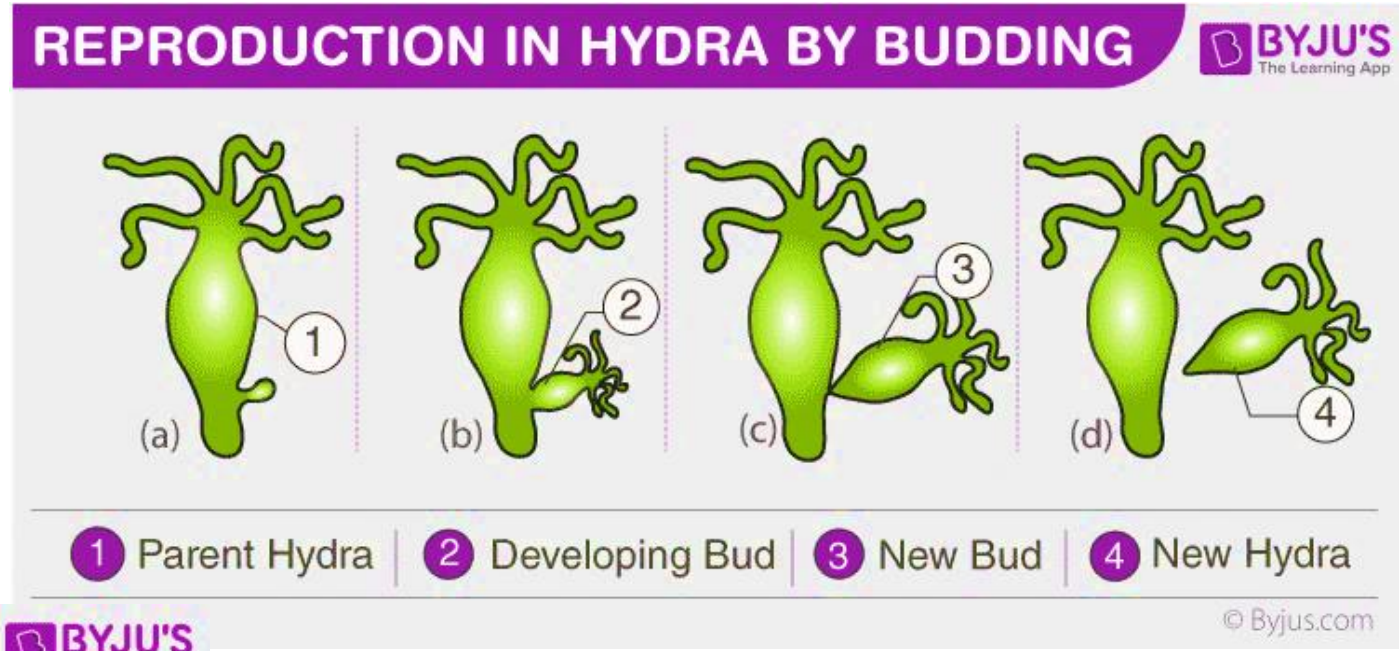
- Strawberry plants send out runners with small plantlets on. These will each grow into a new strawberry plant.

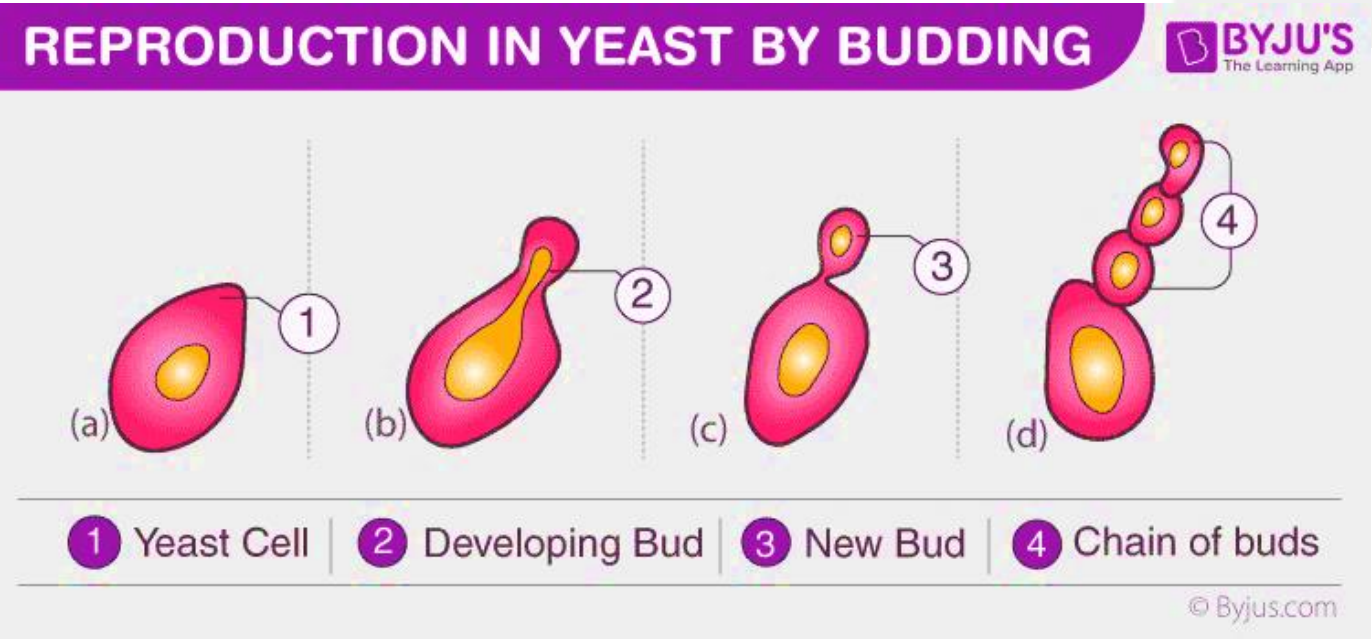


- Spider plants send out branches with baby plantlets on. Each plantlet will grow into a new plant.

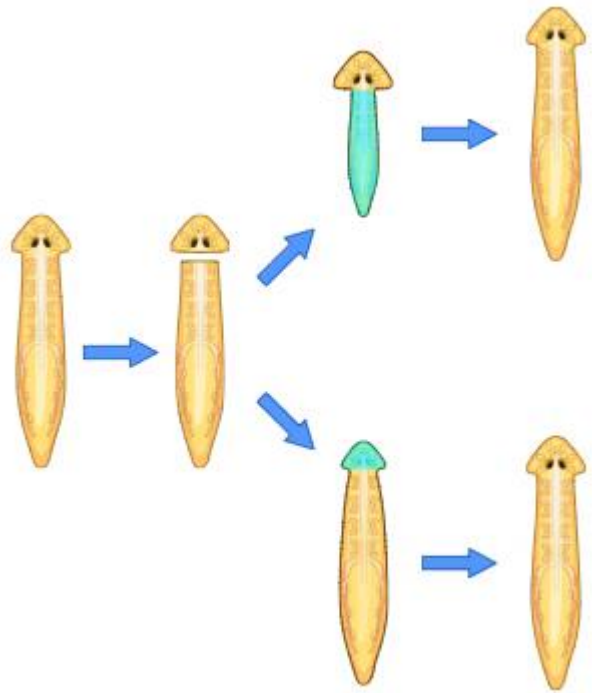
Asexual reproduction in Animals

- Hydra and yeast reproduce asexually by **budding**.

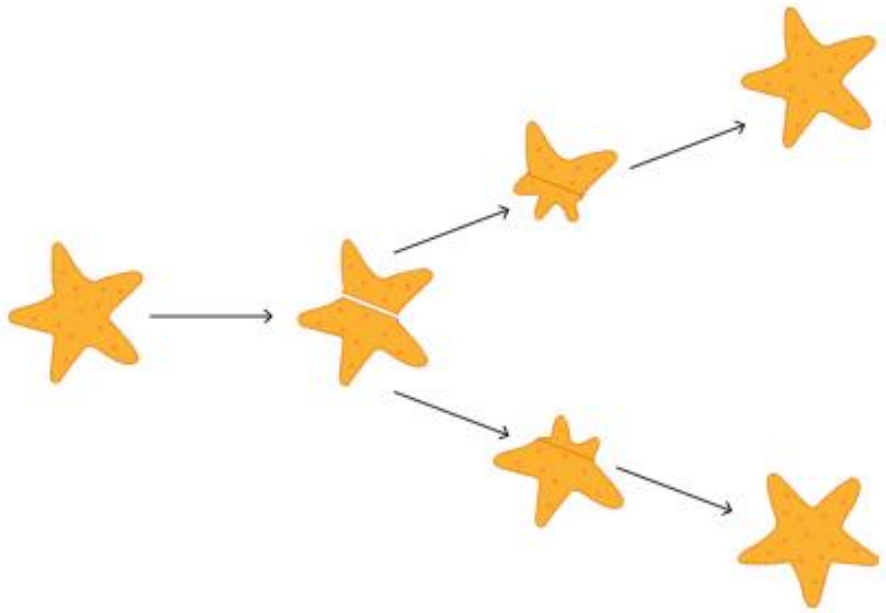




- Planaria worms and starfish reproduce via regeneration; they regrow a damaged or missing part.



The flatworm is cut into two parts. Each part regenerates the missing segments, forming two new individual flatworms.



The starfish is first cut or broken apart into two parts, and then each part regrows the missing section. Finally, two complete starfish are formed.

Sexual reproduction in Plants

Some plants use sexual reproduction to make **seeds**, which grow to make new plants. These plants need **pollen** (containing the male gamete or sex cell) from one flower to fuse with the **ovule** (the female gamete) of another flower, which makes a seed.

Pollination is the transfer of pollen to the ovules by wind, water or insects.

Sexual reproduction in Animals

Sexual reproduction is **the production of a new organism from two parents**. In this process a male gamete fuses with a female gamete to form a new cell called '**zygote**'. This zygote then grows and develops in to a new organism in due course of time